

**SUNSHINE EDUCATION AND RESEARCH CENTER FOR
OCCUPATIONAL SAFETY AND HEALTH
AT THE UNIVERSITY OF SOUTH FLORIDA**

SUMMARY ANNUAL REPORT

July 1, 2008 – June 30, 2009

NIOSH Training Grant

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SUBMITTED BY:

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Sunshine Education and Research Center – 2008-2009 Annual Report

Center Wide: Dr. Thomas Bernard, Director

The University of South Florida Sunshine Education and Research Center improves the health, safety, and well being of workers is in its 12th year. The program provides training in industrial hygiene, occupational health nursing, occupational health psychology, occupational safety, and occupational medicine. Additionally, the continuing education and outreach programs provide training to OSH professionals in the region and state. The Pilot Research Training Project (Dr. Yehia Hammad, Director) provided funding to seven projects from Florida International University and the University of South Florida on diverse topics including occupational stress / violence, prevention of back injury in health care workers, work/family conflict, PAHs / DNA damage in construction workers, heat stress/cardiovascular disease, pesticides/asthma, and dust and silica exposure from gravel mining.

The NORA interdisciplinary Research Seminar Series (Dr. P. Rentos, Director) provides an opportunity for NIOSH supported trainees and OHS professionals to present research and provide outreach for the OHS community. Another interdisciplinary initiative was the formation of an ERC Student Leadership group.

The annual SERC Research Poster Session was conducted in November 2008. It provided an interdisciplinary research training opportunity for ERC student trainees and faculty to present their research and network. A total of 34 posters were presented. About a third of the posters involved faculty and/or trainees from more than one discipline, demonstrating that meaningful research collaboration is being built across programs. Faculty and students had over 60 publications and presentations at national conferences.

Diversity outreach and recruitment (Dr. Steven Mlynarek and Ms. Ellen Kent, Directors) targeted high school and college students. Presentations about the ERC training opportunities were conducted at high schools and colleges throughout the state. Presentations were also provided within the University including the College of Engineering, the Minority Pre-professional Society, and at community and USF sponsored events.

Industrial Hygiene Program: Dr. Yehia, Director

The goal of the Industrial Hygiene Program is to provide an exceptional quality educational experience to working professionals and future researchers in this field. Research is emphasized in the MSPH program as well as the PhD program, and all graduates leave with a strong foundation in the fundamentals of research. In addition, all of our graduates are expected to interact with epidemiologists, toxicologists, occupational physicians, and others in conducting multidisciplinary research related to occupational health.

This past year we have had the highest number of NIOSH trainees in our program since the beginning of NIOSH funding in 1986. The research topics for students in the MSPH program include: *Indoor Environmental Quality in an Elementary School - Measurements of Allergen Concentrations in Carpeting* (Jennifer Fowler); *Filtration Efficiency of Surgical Masks* (E. Sanchez); *Evaluation of the Performance of Disposable N-95 Single Use Respirators* (Daniel Medina); *Evaluation of Community Exposure to Crystalline Silica from a Gravel Pit* (L. Farina). MSPH students who have not yet defined their project are Loren Foster, Amanda Pease, and Patrick Rodriguez. The research topics for students in the PhD program include: *Evaluation of the Performance of a Human Inhalation Challenge Chamber* (Luis Pieretti); *Effects of Ozone on Human Immune Response* (D Schiopu); *Validation of the Predicted Heat Stress / Heat Strain Model* (Ronold Long); *Nanoparticles – A Novel Generation Method* (Adam Marty).

Occupational Health Nursing Program: Dr. Candace Burns, Director

The goal of the Occupational Health Nursing Program (OHN) is to provide education, training and research experiences to occupational health nurses to provide both direct patient care and indirect care to workers. This dual degree program awards the MS (Adult Nurse Practitioner / Occupational Health Nurse) from the College of Nursing and MPH (Occupational Health) from the College of Public Health. Four new trainees were admitted bringing the total number of NIOSH funded trainees to 14 students, including full-time and part-time enrollment. Two trainees graduated and are in the process of preparing to take national certification examinations required for licensure as Advanced Registered Nurse Practitioners (ARNP).

Two NIOSH program trainees focused their Special Projects on *Occupational Violence in Hospital-based Nurses* (Mary Gallant Roman) as an interdisciplinary project with a doctoral student (Liu-Quin Yang) in the Occupational Health Psychology program and *Osteoarthritis in Workers* (Marilyn Aluoch) resulting in two manuscripts accepted for publication. Mary Gallant Roman also received a Sigma Theta Tau (national nursing honor society) research award for her research project.

Occupational Health Psychology: Dr. Paul Spector, Director

Academic year 08-09 was the third year the occupational health psychology (OHP) program was a NIOSH-funded component of the Sunshine ERC. There were 11 trainees in the program, 9 funded and 2 nonfunded. All trainees made academic progress in the program. Two proposed their MA thesis (Eunei Cho and Kristen Saboe), one defended his MA thesis (Raymond Ottinot), two passed their comprehensive examination (Ashley Nixon and Kristin Shockley), two proposed their dissertation (Jagusztyń and Mazzola), and one completed her dissertation and graduated (Liu-Quin Yang). Dr. Yang accepted a faculty position in the psychology department at Portland State University that has a NIOSH-funded OHP program. Although not quite finished with her dissertation, Nicole Jagusztyń has accepted a full-time position in the institutional research department of Hillsborough Community College in Tampa. Three trainees completed internships, two at a local power company (Joseph Mazzola and Ashley Nixon) and one at a national manufacturing company (Kristin Shockley).

Collectively the trainees had 11 articles in refereed journals (in press or in print), 31 conference presentations, and 3 book chapters. They won two research awards, one for a campus student poster event (Eunei Cho) and one for a poster at the Society for Industrial and Organizational Psychology conference in New Orleans (Kristin Shockley). Two were awarded Sunshine ERC pilot grants (Kristin Shockley and Liu-Quin Yang). Ms. Shockley received a campus graduate student teaching excellence award. Joseph Mazzola served as the Graduate Student Issues Committee Chair for the Society for Occupational Health Psychology. Liu-Quin Yang served as Chair of the Sunshine ERC Student Association. Nicole Jagusztyń participated in a continuing education program concerning workplace violence for nurses.

Occupational Medicine Residency: Dr. Stuart Brooks, Director

The Occupational Medicine Residency (OMR) program is a 2-year academic and practicum program leading to the MSPH degree with all residents completing a research thesis. The ACGME accredited program leads to certification in advanced subspecialty in Occupational and Preventive Medicine. Dr. Thomas Truncala (Deputy Director) received board certification in the subspecialty of Occupational Medicine by the American Board of Preventative Medicine in January 2009. Residents complete courses in the College of Public Health (COPH) while attending clinical activities. Dr. Melville Bradley recently submitted his research project titled 2,4,6-Trinitrotoluene (TNT) air levels, hemoglobin change, and anemia cases in respirator protected TNT munitions workers to the Army Medical Department Journal for publication. He was also selected to represent USF's chapter of Delta Omega at the next APHA meeting.

Drs. Patrick Whitney and Keith Proctor, second year residents, are both in the process of collecting data for their research projects. Dr. Whitney will be evaluating the effects Botox on

the treatment of migraine headache. Dr. Proctor plans on studying the reliability of a self-assessment questionnaire on the diagnosis and treatment of obstructive sleep apnea in truck drivers. Other resident research projects concern wellness.

Occupational Safety: Dr. Thomas Bernard, Director

The Occupational Safety program is based on an MPH program that provides the fundamental training in occupational safety along with a strong foundation in the principles of public health. Our students participated in an elective public health capstone class and demonstrated consistently high performance; this class is now a requirement. To build a more research-focused option for safety, an MSPH option was developed and approved during the last year. It provides for a choice between two emphasis areas based on current faculty research strengths: occupational psychology or occupational ergonomics.

One student (Jennifer Logan) graduated from the occupational safety program in the past year. Her MPH project examined risk-taking behaviors based on standard assessment instruments among subjects completing a heat stress protocol. Her initial results were presented at the 2008 National Occupational Injury Research Symposium in Pittsburgh, PA, and she presented her final project as a poster at the Safety 2009: Annual Meeting of ASSE. An OHN student (Marilyn Aluoch) worked with Dr. Thomas Bernard on an osteoarthritis epidemiological study and they prepared a manuscript with two other investigators for JOEM (accepted). One OHP student (Erin Eatough) worked with Dr. Daisy Chang on issues related to workplace psychosocial factors, stress, and musculoskeletal complaints. They have presented their results at two different conferences (the 24th Annual Society for Industrial Organizational Psychology Conference, the 7th Annual National Occupational Research Agenda (NORA) Young/New Investigators Symposium) in poster and oral presentation format. They have also prepared two manuscripts and both are under review.

Continuing Education and Hazardous Substance Training: Dr. Hana Osman, Director

The Continuing Education Program has continued to grow with offerings throughout the state of Florida as well as in Oak Ridge, Tennessee and Washington, DC with a total of 2,196 individuals participating. Some classes were offered exclusively by ERC faculty; and to maximize local, state and national resources, partnerships with other organizations were cultivated. Traditional collaboration with the Annual Workers' Compensation and the Safety & Health Conference, as well as the Florida OHN organization continued, and new affiliations with the Florida Chapter of the AIHA; the Florida Bioethics Network; the Florida Chapter of the Lung Association; the OSHA Training Institute; as well as OSHA, CDC, DHHS, and NIOSH were developed. Collaboration with the Deep South ERC at the University of Alabama, Birmingham was seen in offering courses in ASP and CSP. Repetitive courses such as spirometry and OSHA recordkeeping were offered, and new courses for workers' compensation attorneys and judges, as well as courses on heat stress and ergonomics were developed. Future planning for continuing education activities is achieved through consultation with the Sunshine ERC advisory board CE subcommittee, as well as through needs and impact assessments, and course evaluations that are given at the conclusion of each continuing education activity.

Hazardous Substances Training program: Twenty-nine courses were conducted throughout the state of Florida, and 744 individuals were trained. The classes met the requirements for three federal regulatory agencies (EPA, OSHA, and DOT) training in Hazardous Waste Operations and Emergency Response. All training was conducted by two masters prepared instructors in: Clewiston, Ft. Lauderdale, Homestead, Kissimmee, Miami, Okeechobee, St. Cloud, Tampa, and West Palm Beach. Registration fees are set at a low cost, and 78 state and local government employees received scholarships to attend the classes. To assure a continued high quality level of instruction, all training attendees evaluate the class at the end, and the classes are revised and improved accordingly. In addition, a needs assessment and an anticipated impact assessment were also given to each course attendee.